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Plate 86. — Smelling Bottle and Box in Silver with Niello Ornament. Real size.

Plate 87. — Majolica Plate in the *Gewerbe-Museum* in Berlin.

The ornaments in relief are light coloured on dark ground. The device of placing a circular plate into a square frame, to be met with in antique art, is revived

in the present specimen, the contrast between circle and square being judiciously relieved by four ornamental handles.

Plate 88. — Pattern for Paper Hangings.

This design, marked by good arrangement and elegant flow of lines, is intended for impression by roller.

VARIOUS.

Stone Dressing by Machinery.

We are glad to note that the stone-dressing machinery of Messrs. Allan Ransome & Co. is meeting with continued favour. A great advance has been made by Messrs. Brunton's machine, of which Messrs. Allan Ransome & Co., are the makers. It is the structure of the tool and its mode of action which constitute the peculiarity of this machine. In this lies the secret of the success with which it dresses the hardest granites and the most wearing grits. The machine consists of a bed-plate with standards carrying the dressing apparatus. The stone to be dressed is fixed to a travelling table, which is mechanically moved backwards and forwards under a set of revolving cutters. These latter consist of three circular discs of steel projecting from the under side of a chuck in which they are carried. Each cutter has a rotary motion of its own, and the chuck also revolves with them. The cutters revolve very rapidly over the face of the stone, and clear off the rough surface with astonishing rapidity, the wear and tear of the cutters being remarkably small. It is capable of dressing blocks of Aberdeen granite at the rate of $1\frac{1}{2}$ ft. super. per minute. Ordinary limestones are of course dressed at a much more rapid rate. Several of these machines, specially suited for granite, are being made by Messrs. Ransome for use in the Aberdeen district.

The Builder.

How Pebble Jewelry is Made.

The following interesting facts concerning the manufacture of "pebble jewelry", are taken from the *British Trade Journal*. The gold used by jewelers is always alloyed with certain proportions of pure silver and the finest copper, according to the quality desired. The jeweler melts his metals in a crucible and casts them into ingots about two inches broad, three inches long, and one-eighth of an inch thick. The ingots are reduced to any degree of thinness by being passed between steel rollers. The sheets or plates of metal thus produced are intrusted to a workman, who, guided by drawings or models, clips out the pieces required for the various articles to be made. The pieces are given, along with the designs, to other workmen, who put them together. These men are seated at large tables, round the sides of which are a series of semicircular recesses, each recess being occupied by a workman. After the pieces are brought to the exact size required, they are soldered together by means of a blowpipe. Articles of an ornate character, such as brooches and bracelets covered with designs in filigree

work or inlaid with pebbles, require great nicety of manipulation, and the number of parts which go to compose some of them is immense. Pebble bracelets of a finely worked geometrical pattern are made in which there are no fewer than one hundred and sixty pieces of stone. In making an article which is to be inlaid with pebbles, the jeweler forms a back or foundation, to which a plate pierced with apertures for the pebbles is fixed, a convenient space being left between the two plates. At this stage the work is passed to the lapidary, who cuts and fixes the pebbles. The stones are first cut with a revolving disc of iron charged with diamond dust and oil, and roughly shaped with a pair of pincers. Each piece is then taken in succession and attached to a "cement stick" — a small piece of wood with a quantity of strong cement on one end. Held in that way the stone is ground to the required shape on a revolving disc of lead charged with emery and water. When all the pieces are brought to the shape of the apertures designed for them they are set in shellac. The outer surface has up to this time been left rough, but after the cement has hardened the lapidary takes the brooch in his hand and manipulates it on the grinding disc until the stone is reduced to the level of the metal which surrounds it. The surface is next polished on a disc of tin charged with rotten stone and water, and the brooch is returned to the jeweler. Usually pebble brooches have in the centre a "cairngorm", or what is supposed to be one. The cairngorms are not "set" until the work on the other parts of the brooch is all but completed. The exposed surface of the metal on the face of the brooch is usually relieved by engraved scroll-work. Enameled jewelry has recently come into fashion to some extent, and fine specimens have been produced, the Runic patterns especially being very pretty.

Imitation Nickel Plating.

As nickelising is replacing silvering in some cases, so there are some where nickelising may be itself replaced for many articles of small value, such as pins, particularly if they contain copper. The manipulation is very simple. Coarse rasped or granulated zinc is boiled for some time in a mixture of three parts by weight of sal ammoniac and ten of water, the objects immersed and stirred up with a zinc rod. The deposit is silvery bright, and resists mechanical action as good as a coating of nickel. The process can be recommended for goods which are meant for a second coating of some other metal, since any other is easily deposited upon zinc.

Iron.

